

## **Lower Basin Model Development Summary**

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CH2M HILL has been developing a 2-dimensional hydraulic model of the Lower Basin of the Coeur d'Alene River using MIKE21C – software developed by DHI Water and Environment. Model development activities over the last 2 years have included two revisions to the code: 1) adding the ability to model hydraulic structures such as culverts and weirs, and 2) adding variable-width geometry definitions along individual cell faces. Model calibration and validation efforts are nearly complete. The model is being calibrated to water level data recorded at 13 locations for the 2011 water year and validated using water level data from the 2012 water year. Calibration efforts have focused on refining the model schematization to accurately represent the flow paths that exist during observed floods and adjusting the roughness of the river bed to fine-tune water levels and ultimately reduce residuals to the maximum practical extent. Development of the 2-dimensional sediment transport model (morphodynamic model) will begin once calibration and validation of the hydrodynamic model are complete.